CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1. (Currently Amended) A method comprising:
- receiving a first quantization value for a first macroblock;
- determining a second quantization value for the first macroblock based on the first quantization value, [[and]]an expected amount of video data in a video buffer, and a product value of a X scaling value and a Y scaling value, wherein the product value is raised to a power of Z where Z is less than one.
- 2. (Previously Presented) The method of claim 1, further comprising modifying the first macroblock based on the second quantization value.
- 3. (Original) The method of claim 1, wherein the first quantization value is received from a source of the first macroblock.
- 4. (Previously Presented) The method of claim 1, wherein an address location of the video buffer represents the expected amount of video data in the video buffer.
- 5. (Previously Presented) The method of claim 1, wherein a buffer delay value indicating when a frame is to be processed represents the expected amount of video data in the video buffer.
- 6. (Original) The method of claim 5, wherein the buffer delay value is based on a number of frames stored in a buffer location of the video buffer.
- 7. (Previously Presented) The method of claim 1, wherein the expected amount of video data is determined based on a modeling of the video buffer.

- 8. (Previously Presented) The method of claim 7, wherein the modeling of the video buffer includes determining a fullness of the video buffer based on a difference between an input rate and an output rate.
- 9. (Original) The method of claim 7, wherein modeling of the video buffer includes using a VBV buffer model.
- 10. (Previously Presented) The method of claim 1, wherein determining further includes determining the second quantization value based on a first ratio of an input bit rate to an output bit rate.
- 11. (Previously Presented) The method of claim 10, wherein determining further includes determining the second quantization value based on a second ratio of the first ratio to a source bit count.
 - 12. (Canceled)
- 13. (Currently Amended) The method of elaim 12claim 1, wherein the X scaling value includes a horizontal frame size value and the Y scaling value includes a vertical frame size value.
 - 14. (Original) The method of claim 13, wherein Z is $.75 \pm 0.1$.
- 15. (Original) The method of claim 1, wherein the second quantization value includes a ratio value of the first quantization value to a quantization ratio.
- 16. (Previously Presented) The method of claim 15, wherein the quantization ratio is based on the expected amount of video data.

17. (Previously Presented) The method of claim 16, wherein:

the quantization ratio includes a first constant value when the expected amount of video data is greater than a first indicator;

the quantization ratio includes a second constant value when the expected amount of video data is less than the first indicator and greater than a second indicator; and the quantization ratio is determined from a non-linear function when the expected amount of video data is less than the second indicator.

- 18. (Original) The method of claim 17, wherein the first indicator is a buffer fullness value of 75% +/- 1% of a maximum buffer fullness.
- 19. (Original) The method of claim 17, wherein the second indicator is a buffer fullness value of 20% +/- 1% of a maximum buffer fullness.
- 20. (Previously Presented) The method of claim 17, wherein the non-linear function includes an equation:

$$R = Q * X^{(Y-W)/Z}$$

where R is the quantization ratio, Q is an initial quantization ratio, X is a first constant value, Y is a second constant value, W is a value representing the expected amount of video data, and Z is a third constant value.

- 21. (Previously Presented) A method comprising:
- modifying a quantization value for a first macroblock by a first constant value when an amount of data stored in a buffer is greater than a first indicator;
- modifying the quantization value for the first macroblock by a second constant value when the amount of data stored in the buffer is greater than a second indicator and less than the first indicator; and
- modifying the quantization value for the first macroblock by a non-linear value when the amount of data stored in the buffer is less than the second indicator.

- 22. 50. (Canceled)
- 51. (Currently Amended) A computer program stored in a computer readable medium, the computer program comprising instructions to manipulate a processor to:

receive a first quantization value for a first macroblock;

- determine a second quantization value for the first macroblock based on the first quantization value, [[and a]]an expected amount of video data in a video buffer, and a product value of a X scaling value and a Y scaling value, wherein the product value is raised to a power of Z where Z is less than one.
- 52. (Previously Presented) The computer program of claim 51, wherein said instructions further include instructions to manipulate said processor to modify the first macroblock based on the second quantization value.
- 53. (Previously Presented) The computer program of claim 51, wherein the first quantization value is received from a source of the first macroblock.
- 54. (Previously Presented) The computer program of claim 51, wherein an address location of the video buffer represents the expected amount of video data in the video buffer.
- 55. (Previously Presented) The computer program of claim 51, wherein a buffer delay value indicating when a frame is to be processed represents the expected amount of video data in the video buffer.
- 56. (Previously Presented) The computer program of claim 55, wherein the buffer delay value is based on a number of frames stored in a buffer location of the video buffer.
- 57. (Previously Presented) The computer program of claim 51, wherein the expected amount of video data is determined based on a modeling of the video buffer.

- 58. (Previously Presented) The computer program of claim 57, wherein the modeling of the video buffer includes using a VBV buffer model.
- 59. (Previously Presented) The computer program of claim 57, wherein the modeling of the video buffer includes determining a fullness of the video buffer based on a difference between an input rate and an output rate.
 - 60. (Canceled)
 - 61. (Canceled)
 - 62. (Canceled)
- 63. (Currently Amended) The computer program of elaim 62claim 51, wherein the X scaling value includes a horizontal frame size value and the Y scaling value includes a vertical frame size value.
 - 64. (Previously Presented) The computer program of claim 63, wherein Z is .75 +/- 0.1.
- 65. (Previously Presented) The computer program of claim 51, wherein the second quantization value includes a ratio value of the first quantization value to a quantization ratio.
- 66. (Currently Amended) The computer program of claim 65, wherein the quantization ratio is based on the expected amount of <u>video</u> data.

67. (Previously Presented) The computer program of claim 66, wherein:

the quantization ratio includes a first constant value when the expected amount of video data is greater than a first indicator;

the quantization ratio includes a second constant value when the expected amount of video data is less than the first indicator and greater than a second indicator; and the quantization ratio is determined from a non-linear function when the expected amount of video data is less than the second indicator.

- 68. (Previously Presented) The computer program of claim 67, wherein the first indicator is a buffer fullness value of 75% +/- 1% of a maximum buffer fullness.
- 69. (Previously Presented) The computer program of claim 67, wherein the second indicator is a buffer fullness value of 20% +/- 1% of a maximum buffer fullness.
- 70. (Previously Presented) The computer program of claim 67, wherein the non-linear function includes an equation:

$$R = Q * X^{(Y-W)/Z}$$

where R is the quantization ratio, Q is an initial quantization ratio, X is a first constant value, Y is a second constant value, W is a value representing the expected amount of video data, and Z is a third constant value.

79. (New) A method comprising:

receiving a first quantization value for a first macroblock;

determining a second quantization value for the first macroblock based on the first quantization value and an expected amount of video data in a video buffer; and wherein the first quantization value is received from a source of the first macroblock.

80. (New) A method comprising:

receiving a first quantization value for a first macroblock;

- determining a second quantization value for the first macroblock based on the first quantization value and an expected amount of video data in a video buffer; and wherein the expected amount of video data is determined based on a modeling of the video buffer.
- 81. (New) The method of claim 80, wherein the modeling of the video buffer includes determining a fullness of the video buffer based on a difference between an input rate and an output rate.
- 81. (New) The method of claim 80, wherein modeling of the video buffer includes using a VBV buffer model.
- 82. (New) A computer program stored in a computer readable medium, the computer program comprising instructions to manipulate a processor to:

receive a first quantization value for a first macroblock;

- determine a second quantization value for the first macroblock based on the first quantization value and a expected amount of video data in a video buffer; and wherein the expected amount of video data is determined based on a modeling of the video buffer.
- 83. (New) The computer program of claim 82, wherein the modeling of the video buffer includes using a VBV buffer model.

84. (New) The computer program of claim 82, wherein the modeling of the video buffer includes determining a fullness of the video buffer based on a difference between an input rate and an output rate.